



© Ivo Offenthaler

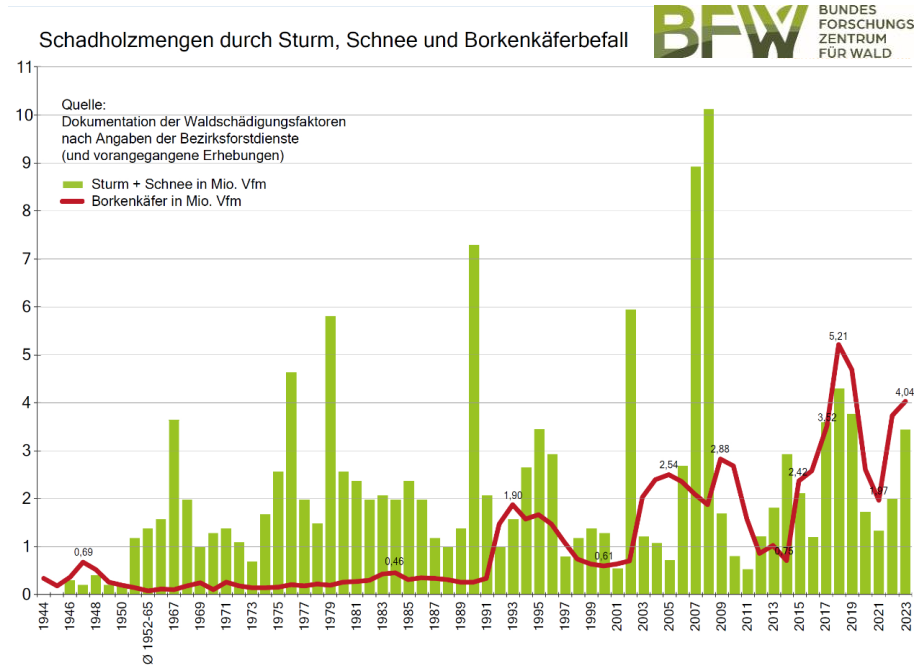
# Identified problems of the method for estimating natural disturbances according to the EU LULUCF regulation

Peter Weiss  
JRC LULUCF Workshop, 06-07 05 2025

# Estimate of baseline and margin for Natural Disturbances (ND) in Austria

- Estimated according to Annex VI of EU LULUCF Regulation:
  - total annual ND emissions estimations for all relevant natural disturbance types of Forest land for the period from 2001 to 2020
  - i.a. emissions resulting from harvesting and salvage logging activities have to be excluded
  - time series consistency in all relevant parameters required
    - Austria estimates decay emissions in forest soil in the GHG inventory, consequently baseline and margin need to be estimated also with decay emission (and not with instantaneous oxidation)

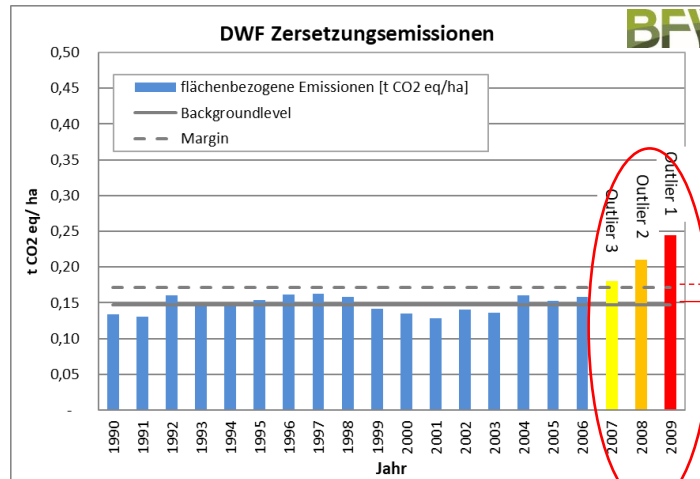
# Austria was heavily affected by Natural disturbances in the last years



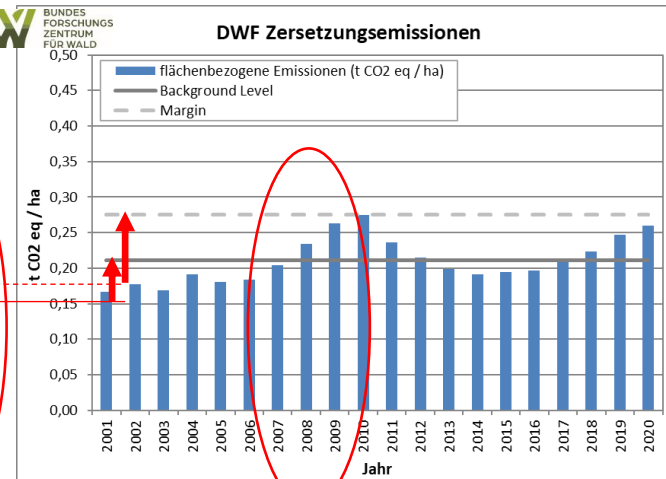
# Identified problem 1 of ND rules of EU LULUCF Regulation

- An increase of disturbance years leads to a higher baseline and margin, which makes the exceedance of the margin (hence, the possible exclusion of ND emissions according to EU LULUCF Regulation) less likely, despite being higher affected by ND

Period 1990-2009 (2nd Kyoto Period)



Period 2001-2020 (EU LULUCF Reg.)



Note that the results for single years changed due to updated input data and methodological improvements, which also had an influence on the shift, but the majority is due to the general mathematical relation described above

## Identified problem 1 of ND rules of EU LULUCF Regulation

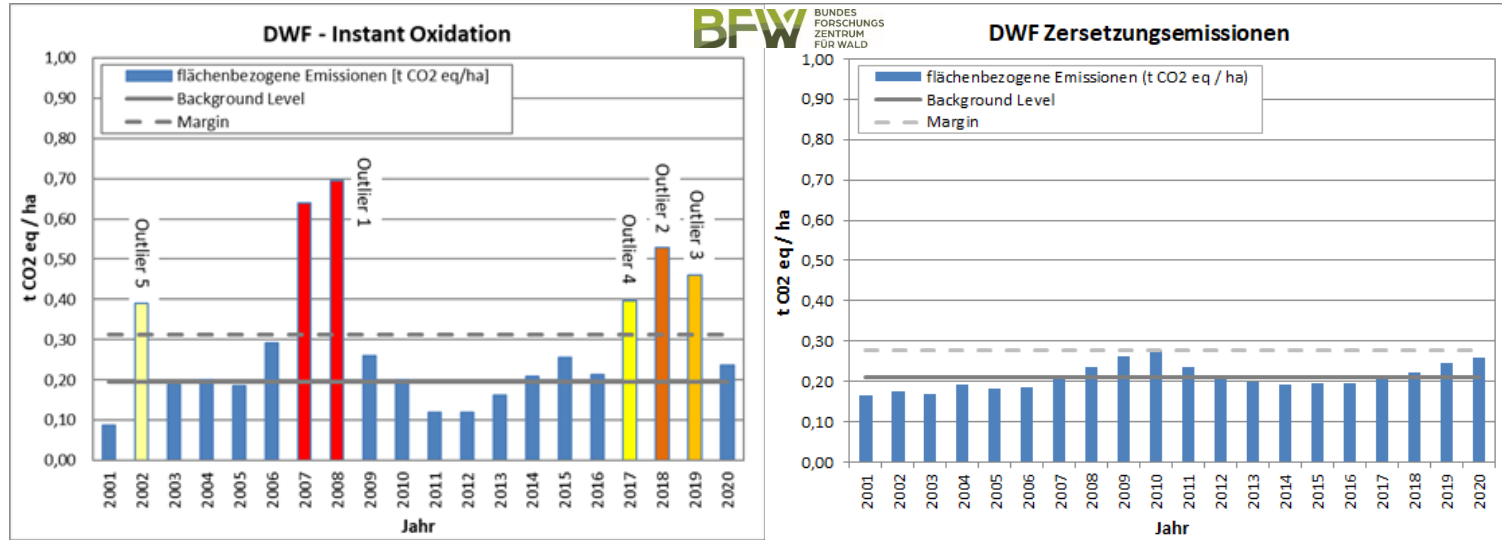
- None of the ND affected years 2021 to 2023 exceed the margin for Austria
  - no exclusion of ND emissions possible for these years
  - no evidence for ND impact possible  
(relevant also for EU LULUCF Reg. Art. 13 (4) flexibility „unused compensation by other MS“)

## Identified problem 2 of ND rules of EU LULUCF Regulation

- The result of ND years above the margin depends a lot on the required method for estimating the baseline and margin and ND emissions
    - Decay emission (MS which estimate forest soil emissions)
- vs.
- Instantaneous oxidation (MS which report no forest soil emissions, Tier 1)

## Identified problem 2 of ND rules of EU LULUCF Regulation

- The estimate of ND with the decay method (right) leads to lower emissions in the year of the ND event compared to ND with the instantaneous oxidation method (left)



## Identified problem 2 of ND rules of EU LULUCF Regulation

- The estimate of ND with the decay method leads to lower emissions in the year of the ND event compared to ND with the instantaneous oxidation method
- This has the following consequences:
  - ND emissions exceed the margin less likely with the decay method compared to instantaneous oxidation method
  - ND emissions based on the decay method occur across several years, but only the emission share in the year of the event (if above the margin and above the baseline) can be excluded, while ND emissions based on instantaneous oxidation are accounted fully in the year of the event and can be fully excluded (above the baseline)
- Less exclusion of ND emissions with decay method compared to instantaneous oxidation method



## Identified problem 3 of ND rules of EU LULUCF Regulation

- Salvage logging has to be carried out due to phytosanitary and legal reasons in Austria
- ND emissions due to salvage logging cannot be excluded from accounting due to EU LULUCF Regulation, but represent by far the highest share in the emissions due to natural disturbances  
(even when delayed emissions by HWP production out of the salvage-logged wood is considered)
- It would have been more helpful, if instead of exclusion of salvage logging the HWP production based on excess logging due to ND would have been excluded from accounting
- An additional issue:  
What are the concerns that justify an exclusion of the increment gains at ND areas after the event (as laid down in the EU LULUCF Regulation)?

# Contact & Information

## Peter Weiss

National Emission Inventories, Climate Policy & Measures  
Senior expert on LULUCF

T: +43 (0)664-88622384

[peter.weiss@umweltbundesamt.at](mailto:peter.weiss@umweltbundesamt.at)

 [www.umweltbundesamt.at](http://www.umweltbundesamt.at)

 [twitter.com/umwelt\\_at](https://twitter.com/umwelt_at)

 [www.linkedin.com/company/umweltbundesamt](https://www.linkedin.com/company/umweltbundesamt)

JRC LULUCF Workshop

06-07 05 2025